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EXAMINER
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CERVETTI, DAVID GARCIA

ART UNIT	PAPER NUMBER
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2136

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12/05/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/828,326

Applicant(s)

SHIM, JAE-SEONG

Examiner

David G. Cervetti

Art Unit

2136

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 2-13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 09/620,462.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 4/21/04.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Claims 1-15 are pending and have been examined.

#### ***Claim Objections***

2. Claim 14 is objected to because of the following informalities: "ECC" must be spelled out. Appropriate correction is required.

#### ***Double Patenting***

3. Claims 14-15 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 of Copending application 10/828,327. Although the conflicting claims are not identical, they are not patentably distinct from each other because

- "a data scrambling method comprising: scrambling data having structure of 2 KB for a sector or a data frame and 64 KB for an ECC block based on random data in a cycle of 32 KB" (**claim 14, instant application**) is analogous to
- "a data scrambler having a random data generator for generating random data in a cycle of 32 KB in order to scramble data having structure of 2 KB for a sector or a data frame and 64 KB for an ECC block" (**claim 1, copending application**);

Furthermore,

- "wherein the scrambling comprises: shifting left a 15-bit serial register  $r_0$  through  $r_{14}$  for generating random data synchronously with a clock input for scrambling; outputting an exclusive OR value exclusive-ORing output

from the higher-most register  $r_{14}$  and output from the lower register  $r_{10}$  to the lower-most register  $r_0$ , outputting the result of exclusive-ORing 1-byte input data  $D_0$  through  $D_7$  and each of the 8 outputs of the lower registers  $r_0$  through  $r_7$  after left-shifting the 15 bit register  $r_0$  through  $r_{14}$  8 times”

**(claim 15, instant application)** is analogous to

- “wherein the random data generator comprises: a 15-bit serial register  $r_0$  through  $r_{14}$  for generating the random data by shifting left synchronized with a clock input for scrambling; and an exclusive OR gate for outputting an exclusive OR value exclusive-ORing output from a higher-most register  $r_{14}$  and output from a lower register  $r_{10}$  to a lower-most register  $r_0$ , wherein the scrambler includes an exclusive OR logic circuit which supplies a result of exclusive-ORing 1-byte input data  $D_0$  through  $D_7$  and each of the 8 outputs of lower registers  $r_0$  through  $r_7$  after left-shifting the 15-bit register  $r_0$  through  $r_{14}$  8 time” **(claim 2, copending application)**.

4. This is a provisional obviousness-type double patenting rejection because the conflicting claims of the instant application have not in fact been patented.

5. Claims 1-2 of Copending application 10/828,327 contain every element of claims 14-15 of the instant application and thus anticipate the claims of the instant application. Claims 14-15 of the instant application therefore are not patently distinct from the copending application claims and as such are unpatentable for obvious-type double patenting. A later patent/application claim is not patentably distinct from an earlier claim if the later claim is anticipated by the earlier claim.

6. "A later patent claim is not patentably distinct from an earlier patent claim if the later claim is obvious over, or anticipated by, the earlier claim. In re Longi, 759 F.2d at 896, 225 USPQ at 651 (affirming a holding of obviousness-type double patenting because the claims at issue were obvious over claims in four prior art patents); In re Berg, 140 F.3d at 1437, 46 USPQ2d at 1233 (Fed. Cir. 1998) (affirming a holding of obviousness-type double patenting where a patent application claim to a genus is anticipated by a patent claim to a species with that genus). "ELI LILLY AND COMPANY v BARR LABORATORIES, INC., United States Court of Appeals for the Federal Circuit, ON PETITION FOR REHEARING EN BANC (DECIDED: May 30, 2001).

7. "Claim 12 and Claim 13 are generic to the species of invention covered by claim 3 of the patent. Thus, the generic invention is "anticipated" by the species of the patented invention. Cf., Titanium Metals Corp. v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (holding that an earlier species disclosure in the prior art defeats any generic claim) 4. This court's predecessor has held that, without a terminal disclaimer, the species claims preclude issuance of the generic claim. In re Van Ornum, 686 F.2d 937, 944, 214 USPQ 761, 767 (CCPA 1982); Schneller, 397 F.2d at 354. Accordingly, absent a terminal disclaimer, claims 12 and 13 were properly rejected under the doctrine of obviousness-type double patenting." (In re Goodman (CA FC) 29 USPQ2d 2010 (12/3/1993)

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**9. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Matsui (US Patent 5,661,707).**

Regarding claim 1, Matsui teaches a data scrambling method using a random data generator for a high density optical recording/reproducing apparatus using an optical disc, the data scrambling method comprising: generating random data having a random data generation cycle based on a result by multiplying at least a size of a first data frame by a result (col. 8, lines 25-67, **data is scrambled using scramble data generated based on values fro outermost circumference**), which is obtained by dividing a data amount of two tracks in an outermost circumference of the optical disc by a size of a second data frame (col. 8, lines 25-67, **C<sub>ycle</sub>**).

**10. Claim 14 is rejected under 35 U.S.C. 102(e) as being anticipated by Ichikawa (US Patent 5,901,159).**

Regarding claim 14, Ichikawa teaches a data scrambling method comprising: scrambling data having structure of 2 KB for a sector or a data frame and 64 KB for an ECC block based on random data in a cycle of 32 KB (col. 15, lines 1-30, **data is scrambled using scramble data generated using an initial value, col. 14, lines 50-67, ECC block and sector**).

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. **Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa, and further in view of Unno (US Patent 6,577,647).**

**Regarding claim 15**, Ichikawa does not expressly disclose a random data generator as claimed.

However, Unno teaches wherein the scrambling comprises: shifting left a 15-bit serial register  $r_0$  through  $r_{14}$  for generating random data synchronously with a clock input for scrambling **(col. 6, lines 1-30, generator comprises register and XOR gate)**; outputting an exclusive OR value exclusive-ORing output from the higher-most register  $r_{14}$  and output from the lower register  $r_{10}$  to the lower-most register  $r_0$ , outputting the result of exclusive-ORing 1-byte input data  $D_0$  through  $D_7$  and each of the 8 outputs of the lower registers  $r_0$  through  $r_7$  after left-shifting the 15 bit register  $r_0$  through  $r_{14}$  8 times **(col. 6, lines 1-30, XOR gate)**.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a random data generator as disclose by Unno with the system of Ichikawa. One of ordinary skill in the art would have been motivated to perform such a modification to improve the performance of the random generator and increase the speed in generating random data (Unno, col. 2, lines 15-43).

***Allowable Subject Matter***

13. Claims 2-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David G. Cervetti whose telephone number is (571)272-5861. The examiner can normally be reached on Monday-Tuesday and Thursday-Friday.

15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nasser Moazzami can be reached on (571)272-4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David García Cervetti/